

**WHAT IS CLAIMED IS:**

1. A method for controlling gas pressure for inflating a passenger-side frontal airbag in a vehicle, comprising:

5 determining whether at least one passenger is resident in the passenger seat;  
determining a number of passengers and a current passenger type corresponding to the at least one passenger when at least one passenger is resident in the passenger seat, the current passenger type being selected from a plurality of predetermined passenger types;

10 determining whether the number of the at least one passenger is not one;  
determining, in the case that the number of the at least one passenger is not one, whether a collision occurs;  
determining, in the case of a vehicle collision, whether the vehicle collision is a frontal collision;

15 detecting, in the case of the frontal collision, a frontal impact generated from the vehicle collision; and  
adjusting the gas pressure for inflating the passenger-side frontal airbag on the basis of the current passenger type and the frontal impact generated from the collision.

20 2. The method of claim 1, wherein when the current passenger type is a child only type, the adjusting the gas pressure comprises:

determining whether the detected frontal impact is larger than a first predetermined impact ( $Im\_1$ ); and  
determining whether the detected frontal impact is larger than a second

25 predetermined impact ( $Im\_2$  wherein,  $Im\_2 > Im\_1$ ),  
wherein when the detected frontal impact is not larger than the first predetermined impact the passenger-side airbag is not operated,  
wherein when the detected impact is larger than the first predetermined impact ( $Im\_1$ ) and is not larger than the second predetermined impact ( $Im\_2$ ) the gas pressure is

formed to be 25% of a normal pressure ( $P_{normal}$ ), and  
wherein when the detected impact is larger than the second predetermined impact ( $Im_2$ ) the gas pressure is formed to be 50% of the normal pressure ( $P_{normal}$ ).

5           3.       The method of claim 1, wherein when the current passenger type is an adult only type, the adjusting the gas pressure comprises:

              determining whether the detected frontal impact is larger than a first predetermined impact ( $Im_1$ ); and

              determining whether the detected frontal impact is larger than a second  
10      predetermined impact ( $Im_2$  wherein,  $Im_2 > Im_1$ ),

              wherein when the detected frontal impact is not larger than the first predetermined impact the passenger-side airbag is not operated,

              wherein when the detected impact is larger than the first predetermined impact ( $Im_1$ ) and is not larger than the second predetermined impact ( $Im_2$ ) the gas pressure is  
15      formed to be 75% of a normal pressure ( $P_{normal}$ ), and

              wherein when the detected impact is larger than the second predetermined impact ( $Im_2$ ) the gas pressure is formed to be 100% of the normal pressure ( $P_{normal}$ ).

              4.       The method of claim 1, wherein when the current passenger type is a  
20      child-adult mixed type, the adjusting the gas pressure comprises:

              determining whether the detected frontal impact is larger than a first predetermined impact ( $Im_1$ ); and

              determining whether the detected frontal impact is larger than a second predetermined impact ( $Im_2$  wherein,  $Im_2 > Im_1$ ),

25               wherein when the detected frontal impact is not larger than the first predetermined impact the passenger-side airbag is not operated,

              wherein when the detected impact is larger than the first predetermined impact ( $Im_1$ ) and is not larger than the second predetermined impact ( $Im_2$ ) the gas pressure is formed to be 25% or 50% of a normal pressure ( $P_{normal}$ ), and

wherein when the detected impact is larger than the second predetermined impact ( $Im\_2$ ) the gas pressure is formed to be 50% or 75% of the normal pressure ( $P\_normal$ ).

- 5            5.            The method of claim 1, wherein when the at least one passenger is resident in the passenger seat and the number of the at least one passenger is not one, further comprising transmitting an alarm with a predetermined means for alarming.